REMARKS

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of January 27, 2006.

Reconsideration of the Application is requested.

The Office Action

The Examiner objected to the disclosure.

Claims 1-11, 17-20, and 23-25 were rejected under 35 USC §102(b) as anticipated by U.S. Patent 5,824,389 to Rostoker.

Claims 3 and 9 were rejected under 35 USC §103(a) as obvious over the '389 patent to Rostoker.

Claims 12-16, 21 and 22 were rejected under §103(a) as obvious over Rostoker in view of U.S. Patent 5,626,734 to Docoslis et al.

In view of the clarifications set forth herein, it is respectfully submitted that claims 1-3, 9-11, 19-23, and 25, and new claims 26-36 are in condition for allowance.

A. Objection to Disclosure Has Been Remedied

In accordance with the Examiner's helpful suggestion, the noted discrepancy on page 16, line 2, has been remedied. The term "fine" has been corrected to "finer" in accordance with the discussion of those terms in paragraph 0061 and as depicted in Figure 6.

It is respectfully submitted that this objection be withdrawn.

The remaining specification is believed to be accurate.

B. Rejection of Claims 1-11, 17-20 and 23-25 Under §102(b) Must Be Withdrawn

In order to further define the claimed subject matter, clarifications are presented to independent claims 1 and 11. In addition, several new claims are added. No new matter is added by any of these amendments since support is found throughout the application as originally filed.

Independent claim 1 has been clarified to recite that the gate includes two electrodes, each positioned at ends of the passage of the second wall. This configuration

is shown in Figs. 1, 6, 8, and in particular, Figs. 10, 10A, 10B, and 10C of the present application. Claim 1 has been further clarified to recite that the controller provides a first voltage to the first electrode and a second, opposite voltage to the second electrode of the gate. This "bipolar voltage" approach is illustrated in Fig. 11 and described in paragraphs 0073-0077 of the present application.

The '389 patent to Rostoker fails to disclose the subject matter of claim 1, particularly as now clarified.[1] Rostoker fails to disclose a system for transporting and selectively sorting particles comprising a plurality of walls with a traveling wave grid and a gate having two electrodes spaced from one another, and a controller which, in addition to providing a multi-phase electrical signal to the traveling wave grid and the two electrodes of the gate, also provides two voltages to the gate electrodes which voltages are opposite from one another, i.e. the bipolar voltage approach.

The most that Rostoker describes in this regard are tubes such as shown in Figs. 1a, 1b, and 3a that may contain a series of conductive rings along their periphery to which a series of successive voltages may be applied. The only configuration arguably similar to the recited gate of claim 1 is that depicted in Figs. 6a-6c of Rostoker. However, as evident from a close reading of the '389 patent, and particularly col. 9, line 4 to col. 10, line 11; concurrently applied opposite voltages are not applied to conductors at opposing ends of the apertures, e.g. in Fig. 6a, conductors 610 and 612 of aperture 630.

Instead, Rostoker applies a single "accelerating potential" or a single "repelling potential" to conductive regions surrounding multiple apertures, within the same plane. For instance, Rostoker describes selecting one of the six apertures in Fig. 6b for receiving particles and then applying an accelerating potential to the square shaped electrode surrounding that aperture. Other repelling potentials can be applied to the square shaped electrodes of the non-selected apertures. See col. 9, lines 19-43 of the '389 patent.

Again, Rostoker fails to disclose a configuration in which opposite voltages are concurrently applied to spaced apart electrodes of a gate, i.e. the "bipolar voltage" approach described in the present application.

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[1] The Examiner is respectfully reminded of the proper standard to be applied under §102. "Anticipation under 35 U.S.C. §102 requires that a single prior art reference disclose each and every limitation of the claimed invention." *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 66 USPQ2d 1429 (Fed. Cir. 2003). "Anticipation under Section 102 can be found only if a reference shows exactly what is claimed." *Titanium Metals Cop. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Furthermore, Rostoker fails to disclose a system as recited in claim 1 that comprises a combination of a traveling wave grid and a gate configuration in which opposite voltages are applied to electrodes of the gate.

The schematic arrangements in Figs. 6a-6c of Rostoker merely illustrate substrates with one or more apertures through which particles may be selectively passed. However, Rostoker fails to disclose that aspect in combination with a traveling wave grid. Fig. 7a of the '389 patent to Rostoker merely depicts a multiple conveyor for separately transporting two materials to two separate reservoirs. Fig. 7b merely depicts multiple conveyors for separately transporting materials to a common mixing site.

It is respectfully submitted that upon further review, the Examiner will appreciate that the '389 patent fails to disclose the subject matter of independent claim 1.

Since claim 1 is allowable over the limited disclosure of the '389 patent to Rostoker, so, too, are claims 2-3 and 9-10 dependent therefrom. Claims 4-8 have been canceled and so the rejection of those claims is moot.

Independent claim 11 has also been clarified to better distinguish the claimed subject matter from the '389 patent to Rostoker. Claim 11 recites a system having at least two transport channels and a gate and gating passage between the transport channels. Rostoker fails to disclose this configuration.

In order to further distinguish the subject matter of claim 11 from that of the '389 patent, claim 11 now expressly recites that the gate includes a first electrode proximate the first transport channel and a second electrode proximate the second transport channel, and that these electrodes are in electrical communication with the recited voltage source. As previously explained, Rostoker fails to disclose a system that comprises a combination of a traveling wave grid and a gate configuration having multiple electrodes.

Furthermore, Rostoker entirely fails to disclose a system as recited in independent claim 11 comprising a housing with a collection of walls that define first and second transport channels and a multiple electrode gate providing communication between the transport channels. As previously noted, although Rostoker arguably discloses multiple conveyors in Figs. 7a and 7b, Rostoker fails to disclose any type of gate between those conveyors which provides communication between the conveyors. It would be inappropriate to construe the "mixing site" of Fig. 7b of the '389 patent as a gate. However,

even if such argument is made, Rostoker still fails to disclose such "gate" as having the recited first and second electrodes of claim 11.

For at least these reasons, it is submitted that independent claim 11, particularly as now clarified, is allowable over the patent to Rostoker.

Claims 17-18 have been canceled and so their rejection is moot. Claims 19-20 depend from claim 11 and so, these claims are believed to also be in condition for allowance.

Independent claim 23 has been amended by incorporating the recitations of claim 24 therein. As previously explained, the '389 patent to Rostoker fails to disclose a system that defines two chambers at least one of which including a traveling wave grid, a multiple electrode gate between the chambers, and a controller in electrical communication with the traveling wave grid and the gate. Furthermore, Rostoker entirely fails to disclose a method of introducing particles into the first chamber; applying a multi-phase electrical signal from the controller to the traveling wave grid to thereby induce a flow of particles in the first chamber; and selectively gating a portion of the particles flowing in the first chamber into the second chamber by the controller outputting a multi-phase electrical signal, in which a first phase is applied to the first gate electrode and the second phase is applied to the second gate electrode.

For at least these reasons, claim 23 and claim 25 dependent therefrom are allowable over the '389 patent to Rostoker. Claim 24 has been canceled

New claims 26 and 27 depend from independent claim 1 as now clarified, and recite particular aspects of the voltage pattern. No new matter is added by these claims since support is provided by Fig. 11 and paragraph 0073 of the application as originally filed.

New independent claim 28 parallels claim 1 as presently clarified, but recites a "unipolar voltage" pattern. Support for this aspect is found in the application as originally filed, and particularly in Fig. 12 and paragraph 0077. New claims 29 and 30 depend from claim 28. These claims parallel originally filed claims 2 and 3. Similarly, new claims 31 and 32 recite details of the unipolar voltage approach, and for the previously expressed reasons, do not add new matter.

New independent claim 33 recites a system comprising, in part, a housing that defines two transport channels and a gating passage between these channels, a first traveling wave grid in the first channel, and a continuous particle supply apparatus in

communication with the first channel. The particle supply apparatus includes a supply housing that defines a supply chamber and a second traveling wave grid in the supply chamber. The '389 patent to Rostoker entirely fails to disclose such a system. In particular, Rostoker fails to disclose a configuration of multiple transport channels with a gate extending between the channels. Moreover, Rostoker fails to disclose the combination of a traveling wave grid and a gate, both of which are operated by a voltage source adapted to output a multi-phase voltage signal.

Since independent claim 33 is allowable over Rostoker, so, too, are claims 34-36 dependent therefrom.

No new matter is added by any of claims 33-36 since these claims parallel previously filed claims 11-15.

It is respectfully urged that each of new claims 26-36 is allowable over the '389 patent to Rostoker.

C. Rejection of Claims 3 and 9 Under §103(a) Must Be Withdrawn

Claims 3 and 9 are both dependent from independent claim 1. These claims were rejected for allegedly being obvious over the '389 patent to Rostoker.

However, it is submitted, that upon closer review, it will be appreciated that these claims are allowable and non-obvious over Rostoker, particularly due to the clarifications presented to claim 1.

As previously explained, claim 1 now recites, in part, a system comprising a first wall, a traveling wave grid extending along the wall, a second wall with a gated passage extending therethrough, in which the gate includes electrodes at each end of the passage. Claim 1 further recites a controller that outputs a multi-phase signal to the traveling wave grid and the gate electrodes. Moreover, claim 1 recites that the voltages applied to the gate electrodes are opposite from one another.

Rostoker entirely fails to teach providing a traveling wave grid in combination with a multi-electrode gate. Furthermore, Rostoker fails to teach the provision of a first voltage applied to a first electrode of the gate and a second voltage applied to the second electrode of the gate. Additionally, Rostoker fails to teach that the first and second voltages are opposite from one another.

For at least these reasons, claims 3 and 9 are allowable over the '389 patent.

D. Rejection of Claims 12-16, 21 and 22 Under §103(a) Must Be Withdrawn

These claims were rejected based upon the '389 patent to Rostoker in view of the '734 patent to Docoslis et al.

Claims 12-16 have been canceled and so, their rejection is moot.

Claims 21-22 depend from previously discussed independent claim 11.

As previously explained, the '389 patent to Rostoker fails to teach a system having at least two transport channels and a gate and gating passage between the transport channels. Furthermore, Rostoker fails to teach that the gate includes a first electrode proximate the first transport channel and a second electrode proximate the second transport channel, and that these electrodes are in electrical communication with the recited voltage source.

The '734 patent to Docoslis et al. fails to remedy the deficiencies of the '389 patent to Rostoker. Specifically, Docoslis et al. entirely fails to teach or even suggest a system having at least two transport channels and a gate and gating passage between the transport channels. Moreover, Docoslis et al. fail to teach or suggest that the gate includes a first electrode proximate the first transport channel and a second electrode proximate the second transport channel, and that these electrodes are in electrical communication with the recited voltage source.

For at least these reasons, claims 21-22 dependent from independent claim 11, are non-obvious and patentable over the '389 patent to Rostoker and the '734 patent to Docoslis et al.

CONCLUSION

For the reasons detailed above, it is submitted all claims remaining in the application (Claims 1-3, 9-11, 19-23, 25, and 26-36) are now in condition for allowance. The foregoing comments do not require unnecessary additional search or examination.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to call Mark E. Bandy, at Telephone Number (216) 861-5582.

Respectfully submitted,

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